

PUB-NO: EP000423944A1
DOCUMENT-IDENTIFIER: EP 423944 A1
TITLE: Cooling method.
PUBN-DATE: April 24, 1991

INVENTOR-INFORMATION:

| NAME | COUNTRY |
|------------------|---------|
| UNO, SHIGERU | JP |
| KANEKO, HIROSHI | JP |
| TAKEMOTO, KATSUO | JP |

ASSIGNEE-INFORMATION:

| NAME | COUNTRY |
|------------|---------|
| TOSOH CORP | JP |

APPL-NO: EP90310335
APPL-DATE: September 21, 1990

PRIORITY-DATA: JP25052189A (September 28, 1989)

INT-CL (IPC): B01J019/00 , C08F002/00 , C08F014/06

EUR-CL (EPC): B01J019/00 , C08F014/06

US-CL-CURRENT: 422/138, 526/74

ABSTRACT:

A polymerization process is advantageously effected to provide product polymers substantially free of "fish eyes" in a polymerization vessel provided with a cooling jacket and/or cooling pipe system through which a liquefied refrigerant having specific ranges of saturation pressure, saturation temperature and boiling point characteristics is passed and is vaporized during the passage so as to effectively remove the heat of polymerization.

DERWENT- 1991-119208

ACC-NO:

DERWENT- 199117

WEEK:

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TITLE: Transferring heat of polymerisation from polymerisation vessel - using liquefied refrigerant having specified ranges of saturation pressure, saturation temp. and b.pt. thus reducing fish eye and scaling

INVENTOR: KANEKO, H; TAKEMOTO, K ; UNO, S**PATENT-ASSIGNEE:** TOSOH CORP[TOYJ]**PRIORITY-DATA:** 1989JP-0250521 (September 28, 1989)**PATENT-FAMILY:**

| PUB-NO | PUB-DATE | LANGUAGE | PAGES | MAIN-IPC |
|---------------|----------------|----------|-------|-------------|
| EP 423944 A | April 24, 1991 | N/A | 000 | N/A |
| JP 03115303 A | May 16, 1991 | N/A | 000 | N/A |
| US 5131232 A | July 21, 1992 | N/A | 006 | F25D 025/00 |

DESIGNATED-STATES: BE DE FR GB

CITED-DOCUMENTS: EP 100430; GB 1138627 ; GB 2022454 ; US 2122805 ; US 3611739

APPLICATION-DATA:

| PUB-NO | APPL-DESCRIPTOR | APPL-NO | APPL-DATE |
|--------------|-----------------|----------------|--------------------|
| EP 423944A | N/A | 1990EP-0310335 | September 21, 1990 |
| JP 03115303A | N/A | 1989JP-0250521 | September 28, 1989 |
| US 5131232A | N/A | 1990US-0586107 | September 21, 1990 |

INT-CL (IPC): B01J019/00, C08F002/00 , C08F014/06 , F25D025/00**ABSTRACTED-PUB-NO:** EP 423944A**BASIC-ABSTRACT:**

A method (I) for transferring heat from a polymerisation vessel, within which a polymerisation reaction is taking place, involves providing the vessel with a cooling jacket and/or cooling pipe system

(II) through which is directly fed a refrigerant medium (III). (III) exhibits a saturation pressure of 0.1-80 (0.3-50) kg/cm², saturation temp. of minus 50-30 (minus 30-15) deg.C. and a b.pt. of minus 130-95 deg.C.. Pref. the polymerisation temp. is minus 30-300 deg.C. and in the polymerisation process, (III) is cooled down to minus 50-30 deg.C..

USE/ADVANTAGE - In (I), the heat of polymerisation is efficiently removed by the direct feeding of (III), maintained at a temp. within specific range, into (II) provided for the polymerisation vessel. The result is a polymer contg. less 'fish eye' and the necessity to clean the polymerisation vessel of deposited solids is significantly reduced.

ABSTRACTED-PUB-NO: US 5131232A

EQUIVALENT-ABSTRACTS:

A method for cooling a polymerisation vessel comprises provision of a cooling jacket around the vessel and a cooling pipe within it. Refrigerant medium is circulated through the cooling jacket and pipe and exhibits satn. press. of 0.1-80 kg/cm², a satn. temp. of from -50 deg.C to 30 deg.C and a boiling pt. of -130 deg.C to 95 deg.C.

The refrigerant is cooled down to a temp. of from -50 deg.C to 30 deg.C. Pref. the polymerisation is suspension, emulsion, bulk, gas phase or soln. polymerisation.

ADVANTAGE - 'Fish eye' contamination is reduced.

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CHOSEN- Dwg.0/0 Dwg.1/1

DRAWING:

TITLE- TRANSFER HEAT POLYMERISE POLYMERISE VESSEL LIQUEFY

TERMS: REFRIGERATE SPECIFIED RANGE SATURATE PRESSURE SATURATE TEMPERATURE REDUCE FISH EYE SCALE

DERWENT-CLASS: A14 A60 E16 E17 E35 E36 Q75

CPI- A10-B01; E10-H02B; E10-J02C4; E10-J02D; E31-F04; E31-N05C;
CODES: E32-A02;

CHEMICAL- Chemical Indexing M3 *01* Fragmentation Code H6 H600 H601
CODES: H602 H607 H608 H609 H681 H682 H683 H684 H686 H689 M210 M211
M212 M213 M214 M215 M216 M220 M221 M222 M223 M224 M225 M226
M231 M232 M233 M250 M280 M281 M311 M312 M313 M314 M315 M316
M320 M321 M331 M332 M333 M334 M340 M342 M343 M344 M363 M391
M416 M620 M781 M903 M904 Q120 Q433 Specfic Compounds 00366U
00375U 00376U 00377U 90115U 90117U

Chemical Indexing M3 *02* Fragmentation Code M210 M211 M212
M213 M214 M215 M216 M220 M221 M222 M223 M224 M225 M226 M231
M232 M233 M320 M416 M610 M620 M781 M903 M904 Q120 Q433
Specific Compounds 00323U 00335U 90120U

Chemical Indexing M3 *03* Fragmentation Code H7 H721 M210
M212 M213 M214 M215 M216 M220 M221 M222 M223 M224 M225 M226
M231 M232 M233 M320 M416 M610 M781 M903 M904 Q120 Q433
Specific Compounds 00326U 00964U 90123U

Chemical Indexing M3 *04* Fragmentation Code C500 C730 C800
C801 C802 C804 C806 C807 M411 M781 M903 M904 M910 Q120 Q433
Specific Compounds 01713U

Chemical Indexing M3 *05* Fragmentation Code C106 C108 C530
C730 C800 C801 C802 C803 C805 C807 M411 M781 M903 M904 M910
Q120 Q433 Specific Compounds 01066U

Chemical Indexing M3 *06* Fragmentation Code C108 C216 C540
C730 C800 C801 C802 C803 C804 C805 M411 M781 M903 M904 M910
Q120 Q433 Specific Compounds 01674U

UNLINKED-DERWENT- ; 0323U ; 0326U ; 0335U ; 0375U ; 0376U ;
REGISTRY-NUMBERS: 0377U ; 0964U ; 1066U ; 1674U ; 1713U ; 1842U

POLYMER-MULTIPUNCH-CODES-AND-KEY-SERIALS:

Key Serials: 0007 0008 0009 0209 0229 0230 0759 0760 2007 2028 2066
2082 2083 2085 2093 3209 2105 2106 2108 2116 3210 2272
2276 2318 2339 2363 2364 2367 2368 3241 2522 2646
Multipunch 014 03- 030 031 032 034 04& 061 062 063 231 244 245 264
Codes: 266 267 311 316 318 324 347 348 355 363 369 371 502 504
54& 575 581 59& 602 679 688 691

SECONDARY-ACC-NO:

CPI Secondary Accession Numbers: C1991-051327